



## **DEPARTMENT OF TRANSPORTATION**

### **Federal Aviation Administration**

#### **14 CFR Part 39**

**[Docket No. FAA-2021-0134; Project Identifier AD-2020-01254-T; Amendment 39-21833; AD 2021-24-12]**

**RIN 2120-AA64**

#### **Airworthiness Directives; The Boeing Company Airplanes**

**AGENCY:** Federal Aviation Administration (FAA), DOT.

**ACTION:** Final rule.

**SUMMARY:** The FAA is adopting a new airworthiness directive (AD) for certain The Boeing Company Model 777 airplanes. This AD was prompted by significant changes, including new or more restrictive requirements, made to the airworthiness limitations (AWLs) and Critical Design Configuration Control Limitations (CDCCLs) related to fuel tank ignition prevention, the engine fuel suction feed system, and the nitrogen generation system. This AD requires revising the existing maintenance or inspection program, as applicable, to incorporate new or more restrictive airworthiness limitations. The FAA is issuing this AD to address the unsafe condition on these products.

**DATES:** This AD is effective [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

The Director of the Federal Register approved the incorporation by reference of certain publications listed in this AD as of [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

**ADDRESSES:** For service information identified in this final rule, contact Boeing Commercial Airplanes, Attention: Contractual & Data Services (C&DS), 2600 Westminister Blvd., MC 110-SK57, Seal Beach, CA 90740-5600; telephone

562-797-1717; Internet <https://www.myboeingfleet.com>. You may view this service information at the FAA, Airworthiness Products Section, Operational Safety Branch, 2200 South 216th St., Des Moines, WA. For information on the availability of this material at the FAA, call 206-231-3195. It is also available at <https://www.regulations.gov> by searching for and locating Docket No. FAA-2021-0134.

### **Examining the AD Docket**

You may examine the AD docket at <https://www.regulations.gov> by searching for and locating Docket No. FAA-2021-0134; or in person at Docket Operations between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this final rule, any comments received, and other information. The address for Docket Operations is U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE, Washington, DC 20590.

**FOR FURTHER INFORMATION CONTACT:** Kevin Nguyen, Aerospace Engineer, Propulsion Section, FAA, Seattle ACO Branch, 2200 South 216th St., Des Moines, WA 98198; phone and fax: 206-231-3555; email: [kevin.nguyen@faa.gov](mailto:kevin.nguyen@faa.gov).

### **SUPPLEMENTARY INFORMATION:**

#### **Background**

The FAA issued a notice of proposed rulemaking (NPRM) to amend 14 CFR part 39 by adding an AD that would apply to certain The Boeing Company Model 777 airplanes. The NPRM published in the *Federal Register* on March 26, 2021 (86 FR 16133). The NPRM was prompted by significant changes, including new or more restrictive requirements, made to the AWLs and CDCCLs related to fuel tank ignition prevention, the engine fuel suction feed system, and the nitrogen generation system. In the NPRM, the FAA proposed to require revising the existing maintenance or inspection program, as applicable, to incorporate new or more restrictive airworthiness limitations.

The FAA is issuing this AD to address ignition sources inside the fuel tanks and the increased flammability exposure of the center fuel tank caused by latent failures, alterations, repairs, or maintenance actions, which could result in a fuel tank explosion and consequent loss of an airplane; and to address potential loss of engine fuel suction feed capability, which could result in dual engine flameouts, inability to restart engines, and consequent forced landing of the airplane.

### **Discussion of Final Airworthiness Directive**

#### **Comments**

The FAA received comments from The Air Line Pilots Association, International (ALPA), and FedEx Express, who supported the NPRM without change.

The FAA received additional comments from three commenters, including American Airlines (AAL), Boeing, and United Airlines (UAL). The following presents the comments received on the NPRM and the FAA's response to each comment.

#### **Request to Delay Issuance of the NPRM**

Boeing requested delay of issuance of the NPRM until updated service information is available. Boeing stated that the service information has been updated to Section 9, Airworthiness Limitations (AWLs) and Certification Maintenance Requirements (CMRs), D622W001-9, dated February 2021, of Boeing 777-200/200LR/300/300ER/777F Maintenance Planning Data (MPD) Document, which modified two AWLs that are not currently mandated by AD 2008-11-13, Amendment 39-15536 (73 FR 30737, May 29, 2008) (AD 2008-11-13) (which will be terminated by this AD), and that the AWLs have changed significantly. Boeing commented that using the latest service information eliminates the need for approval of an alternative method of compliance (AMOC) for the revised AWLs.

Boeing also stated that the delay of the NPRM should occur after Section 9, Airworthiness Limitations (AWLs) and Certification Maintenance Requirements

(CMRs), D622W001-9, dated February 2021, of Boeing 777-200/200LR/300/300ER/777F Maintenance Planning Data (MPD) Document, has been migrated to an “SCI [special compliance items]/AWL document D622W001-9-04.” Boeing commented that FAA approval and publication of this document to MyBoeingFleet is anticipated by October 2021. Boeing also commented that the migration of the document will make the method of compliance more manageable for the FAA, Boeing, and the operators, and that it will also eliminate the need for an AMOC to use the “SCI/AWL document.” Boeing asked that paragraph (g) of the proposed AD be revised to the document name and revision date of the new “SCI/AWL document” when approved by the FAA.

The FAA partially agrees with the commenter’s request. The FAA agrees to allow operators the option to use Section 9, Airworthiness Limitations (AWLs) and Certification Maintenance Requirements (CMRs), D622W001-9, dated February 2021, of Boeing 777-200/200LR/300/300ER/777F Maintenance Planning Data (MPD) Document, for the reasons provided above. The February 2021 revision of Section 9 has significant updates to AWL 28-AWL-31 and AWL 28-AWL-32 that were included in the November 2019 revision of Section 9 to clarify the applicability of certain wire harnesses and wire bundles, and certain locations of Teflon sleeving and wire bundles. Either the November 2019 or February 2021 revision of Section 9 provides an adequate level of safety. The FAA has revised the “Related Service Information under 1 CFR Part 51” section of this final rule and paragraph (g) of this AD accordingly.

In addition, the FAA has revised paragraph (h) of this AD to clarify certain description headers for 28-AWL-31 and 28-AWL-32 of Section D, “Airworthiness Limitations – Systems,” including Subsections D.1, D.2, and D.3, of Section 9, Airworthiness Limitations (AWLs) and Certification Maintenance Requirements (CMRs), D622W001-9, dated February 2021, of Boeing 777

200/200LR/300/300ER/777F Maintenance Planning Data (MPD) Document. The FAA has redesigned subsequent paragraphs accordingly.

Since the SCI/AWL document has not yet been issued, the FAA disagrees to delay this final rule any further to wait for document migration. To delay this AD would be inappropriate since the FAA has determined that an unsafe condition exists and that the actions in this AD must be done to ensure continued safety. However, if an operator is unable to accomplish the actions in this AD for whatever reason, it may request approval of an AMOC under the provisions of paragraph (l)(1) of this AD. The FAA has not changed this final rule in this regard.

#### **Request for an Exemption for Airplanes in Long-Term Storage**

UAL recommended that airplanes in long-term storage be exempt from the applicable initial compliance times in the proposed AD. UAL also recommended that the airworthiness limitation instructions (ALI) tasks in the proposed AD be accomplished at the applicable initial compliance times after the airplane is returned to service. UAL stated that paragraph (g) of the proposed AD requires the initial compliance time for doing the ALI tasks at the times specified in paragraphs (g)(1) through (10) of the proposed AD. UAL also stated that paragraphs (g)(1) through (5) of the proposed AD provides the flight cycles or days in which to do the ALI tasks after the most recent inspection, and paragraph (g)(6) of the proposed AD requires doing the ALI task within 60 months after the effective date of this AD. UAL commented that due to varying circumstances, however, many of the affected airplanes are now in long-term storage.

The FAA disagrees with UAL's recommendation to provide an exemption for airplanes in long-term storage. While the FAA understands that some airplanes are currently in long-term storage due to varying circumstances, it has determined that due to the unsafe condition, the initial compliance times for doing the ALI tasks represent an adequate amount of time to accomplish the actions required in this AD. If an operator is

unable to accomplish the actions in this AD for whatever reason, it may request for an approval of an AMOC under the provisions of paragraph (l)(1) of this AD. The FAA has not changed this AD in this regard.

#### **Request to Remove Unqualified Wire Types**

Boeing requested removal of unqualified wire and wire sleeving types from the list of acceptable wire and wire sleeving types specified in paragraphs (h)(1) and (2) of the proposed AD. Boeing stated that it has qualified and certified wire types BMS 13-48, BMS 13-58 and BMS 13-60, and Teflon wire sleeving TFE-2X, and it has not certified the additional wire and wire sleeving types for Boeing airplanes specified in paragraphs (h)(1) and (2) of the proposed AD.

The FAA disagrees with the commenter's request. Due to the FAA's assessment of the critical design features, it has determined that additional non-Boeing alternative wire types, wire sleeves, and wire sleeving material, as specified in paragraphs (i)(1) and (2) of this AD, are acceptable. Since the issuance of AD 2008-11-13 (which is terminated by this AD), the FAA has received requests for approval of AMOCs from operators and supplemental type certificate (STC) holders (or applicants) to allow the installation of alternative wire types, wire sleeves, and wire sleeving materials. The FAA evaluated certain attributes of those alternative materials for each installation, and issued AMOC approvals for AD 2008-11-13 based on its determination that the installation of those wire types, wire sleeves, and wire sleeving materials would provide an acceptable level of safety. The FAA has not changed the AD in this regard.

#### **Request for Clarification of Previously Issued AMOCs**

AAL requested clarification of previously issued AMOCs. AAL stated that for AD 2008-11-13, it currently uses AMOC 784-17-1576 with AWL 28-AWL-AVDEC and AWL 28-AWL-16, for the installation of STC ST02532LA. AAL commented that the

NPRM specifically stated that credit would not be granted for AMOCs previously approved under AD 2008-11-13, to which AMOC 784-17-1576 is applicable.

AAL also commented that the NPRM specifically references operator's incorporating alternative versions of AWL 28-AWL-11, and that the FAA determined that certain critical design features specified in the AMOC-approved versions are not acceptable to meet the intent of AWL 28-AWL-11. AAL stated that the paragraph reads as though all AMOCs associated with AD 2008-11-13 are no longer approved; however, AAL uses AMOC 784-17-1576 to install a series of gaskets that do not require a greasing component, while AWL 28-AWL-11 is associated with requirements for new wiring that penetrates the fuel tank wall.

AAL commented that AMOC 784-17-1576 does not affect AWL 28-AWL-11 or its fundamental elements, and that AMOC 784-17-1576 aligns with the incorporation of AWL 28-AWL-01 through AWL 28-AWL-20, inclusive of Section 9, Airworthiness Limitations (AWLs) and Certification Maintenance Requirements (CMRs), D622W001-9, dated November 2019, of Boeing 777-200/200LR/300/300ER/777F Maintenance Planning Data (MPD) Document.

The FAA provides the following clarification that was included in the NPRM for AMOCs previously approved for AD 2008-11-13. The FAA previously issued AMOC approvals for compliance with paragraph (g)(2) of AD 2008-11-13 to allow operators to incorporate alternative versions of AWL 28-AWL-11. For those STCs, the FAA approved alternative versions of AWL 28-AWL-11 that specified critical design features associated with STC modifications. The FAA has determined that certain critical design features specified in the AMOC-approved versions of AWL 28-AWL-11 are no longer acceptable in meeting the intent of this AWL. Therefore, this AD does not allow credit for any AMOCs previously approved under AD 2008-11-13; AMOCs approved under AD 2008-11-13 will need to be resubmitted for evaluation. If an operator is unable to

accomplish the actions in this AD for whatever reason, it may request an approval of an AMOC under the provisions of paragraph (l)(1) of this AD. The FAA has not changed this AD in this regard.

## **Conclusion**

The FAA reviewed the relevant data, considered any comments received, and determined that air safety requires adopting this AD as proposed. Except for minor editorial changes, and any other changes described previously, this AD is adopted as proposed in the NPRM. None of the changes will increase the economic burden on any operator.

## **Related Service Information under 1 CFR Part 51**

The FAA has reviewed the following service information.

- Section 9, Airworthiness Limitations (AWLs) and Certification Maintenance Requirements (CMRs), D622W001-9, dated November 2019, of Boeing 777-200/200LR/300/300ER/777F Maintenance Planning Data (MPD) Document.

- Section 9, Airworthiness Limitations (AWLs) and Certification Maintenance Requirements (CMRs), D622W001-9, dated February 2021, of Boeing 777-200/200LR/300/300ER/777F Maintenance Planning Data (MPD) Document.

This service information describes airworthiness limitations and CDCCLs tasks related to fuel tank ignition prevention, the engine fuel suction feed system, and the nitrogen generation system. These documents are distinct because the February 2021 revision of Section 9 includes updated information. This service information is reasonably available because the interested parties have access to it through their normal course of business or by the means identified in ADDRESSES.

## **Costs of Compliance**

The FAA estimates that this AD affects 219 airplanes of U.S. registry. The FAA estimates the following costs to comply with this AD:



The FAA has determined that revising the existing maintenance or inspection program takes an average of 90 work-hours per operator, although the agency recognizes that this number may vary from operator to operator. Since operators incorporate maintenance or inspection program changes for their affected fleet(s), the FAA has determined that a per-operator estimate is more accurate than a per-airplane estimate. Therefore, the FAA estimates the average total cost per operator to be \$7,650 (90 work-hours x \$85 per work-hour).

### **Authority for this Rulemaking**

Title 49 of the United States Code specifies the FAA's authority to issue rules on aviation safety. Subtitle I, section 106, describes the authority of the FAA Administrator. Subtitle VII: Aviation Programs, describes in more detail the scope of the Agency's authority.

The FAA is issuing this rulemaking under the authority described in Subtitle VII, Part A, Subpart III, Section 44701: General requirements. Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

### **Regulatory Findings**

This AD will not have federalism implications under Executive Order 13132. This AD will not have a substantial direct effect on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed above, I certify that this AD:

(1) Is not a "significant regulatory action" under Executive Order 12866,

(2) Will not affect intrastate aviation in Alaska, and

(3) Will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

### **List of Subjects in 14 CFR Part 39**

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

### **The Amendment**

Accordingly, under the authority delegated to me by the Administrator, the FAA amends 14 CFR part 39 as follows:

### **PART 39 - AIRWORTHINESS DIRECTIVES**

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

#### **§ 39.13 [Amended]**

2. The FAA amends § 39.13 by adding the following new airworthiness directive:

**2021-24-12 The Boeing Company:** Amendment 39-21833; Docket No. FAA-2021-0134; Project Identifier AD-2020-01254-T.

#### **(a) Effective Date**

This airworthiness directive (AD) is effective [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

#### **(b) Affected ADs**

This AD affects the ADs specified in paragraphs (b)(1) and (2) of this AD.

(1) AD 2008-11-13, Amendment 39-15536 (73 FR 30737, May 29, 2008) (AD 2008-11-13).

(2) AD 2014-09-09, Amendment 39-17844 (79 FR 30005, May 27, 2014) (AD 2014-09-09).

#### **(c) Applicability**

This AD applies to The Boeing Company Model 777-200, -200LR, -300,

-300ER, and 777F series airplanes, certificated in any category, having line numbers (L/Ns) 1 through 1609 inclusive.

**(d) Subject**

Air Transport Association (ATA) of America Code 28, Fuel; 47, Inert Gas System.

**(e) Unsafe Condition**

This AD was prompted by significant changes, including new or more restrictive requirements, made to the airworthiness limitations (AWLs) and Critical Design Configuration Control Limitations (CDCCLs) related to fuel tank ignition prevention, the engine fuel suction feed system, and the nitrogen generation system. The FAA is issuing this AD to address ignition sources inside the fuel tanks and the increased flammability exposure of the center fuel tank caused by latent failures, alterations, repairs, or maintenance actions, which could result in a fuel tank explosion and consequent loss of an airplane; and to address potential loss of engine fuel suction feed capability, which could result in dual engine flameouts, inability to restart engines, and consequent forced landing of the airplane.

**(f) Compliance**

Comply with this AD within the compliance times specified, unless already done.

**(g) Maintenance or Inspection Program Revision**

Within 60 days after the effective date of this AD, revise the existing maintenance or inspection program, as applicable, to incorporate the information in Section D, “Airworthiness Limitations – Systems,” including Subsections D.1, D.2, and D.3, of Section 9, Airworthiness Limitations (AWLs) and Certification Maintenance Requirements (CMRs), D622W001-9, dated November 2019, of Boeing 777-200/200LR/300/300ER/777F Maintenance Planning Data (MPD) Document; or Section D, “Airworthiness Limitations – Systems,” including Subsections D.1, D.2, and

D.3, of Section 9, Airworthiness Limitations (AWLs) and Certification Maintenance Requirements (CMRs), D622W001-9, dated February 2021, of Boeing 777-200/200LR/300/300ER/777F Maintenance Planning Data (MPD) Document; except as provided by paragraph (h) and (i) of this AD. The initial compliance time for doing the airworthiness limitation instructions (ALI) tasks is at the times specified in paragraphs (g)(1) through (10) of this AD.

(1) For AWL 28-AWL-01, “External Wires Over Center Fuel Tank”: Within 16,000 flight cycles or 3,000 days, whichever occurs first after the date of issuance of the original airworthiness certificate or the date of issuance of the original export certificate of airworthiness; or within 16,000 flight cycles or 3,000 days, whichever occurs first after the most recent inspection was performed as specified in AWL 28-AWL-01; whichever occurs later.

(2) For AWL 28-AWL-03, “Fuel Quantity Indicating System (FQIS)—Out of Tank Wiring Lightning Shield to Ground Termination”: Within 16,000 flight cycles or 3,000 days, whichever occurs first after the date of issuance of the original airworthiness certificate or the date of issuance of the original export certificate of airworthiness; or within 16,000 flight cycles or 3,000 days, whichever occurs first after the most recent inspection was performed as specified in AWL 28-AWL-03; whichever occurs later.

(3) For AWL 28-AWL-18, “Over-Current and Arcing Protection Electrical Design Features Operation—AC Fuel Pump GFI and GFP”: Within 375 days after the date of issuance of the original airworthiness certificate or the date of issuance of the original export certificate of airworthiness; or within 375 days after accomplishment of the actions specified in Boeing Service Bulletin 777-28A0037; or within 375 days after accomplishment of the actions specified in Boeing Service Bulletin 777-28A0038; or within 375 days after the most recent inspection was performed as specified in AWL 28-AWL-18; whichever occurs latest.

(4) For AWL 28-AWL-21, “External Wires Over Auxiliary Fuel Tank (Cell)”:

Within 16,000 flight cycles or 3,000 days, whichever occurs first after the date of issuance of the original airworthiness certificate or date of issuance of the original export certificate of airworthiness; or within 16,000 flight cycles or 3,000 days, whichever occurs first after the most recent inspection was performed as specified in AWL 28-AWL-21; or within 365 days after the effective date of this AD; whichever occurs latest.

(5) For AWL 28-AWL-26, “Auxiliary Fuel Tank (Cell) AC Fuel Pump

Uncommanded ON/Automatic Shutoff Circuit”: Within 375 days after the date of issuance of the original airworthiness certificate or the date of issuance of the original export certificate of airworthiness; or within 375 days after the most recent inspection was performed as specified in AWL 28-AWL-26; or within 30 days after the effective date of this AD; whichever occurs latest.

(6) For AWL 28-AWL-32, “Cushion Clamps and Teflon Sleeving Installed on

Out-of-Tank Wire Bundles Installed on Brackets that are Mounted Directly on the Fuel Tanks”: For airplanes having L/Ns 1 through 503 inclusive, within 3,750 days after accomplishment of the actions specified in Boeing Service Bulletins 777-57A0050, or within 60 months after the effective date of this AD, whichever occurs later. For airplanes having L/Ns 504 and subsequent, within 3,750 days after the date of issuance of the original airworthiness certificate or the date of issuance of the original export certificate of airworthiness; or within 60 months after the effective date of this AD; whichever occurs later.

(7) For AWL 28-AWL-101, “Engine Fuel Suction Feed Operational Test”:

Within 7,500 flight hours after the date of issuance of the original airworthiness certificate or the date of issuance of the original export certificate of airworthiness; or

within 7,500 flight hours after the most recent inspection was performed as specified in AWL 28-AWL-101; whichever occurs later.

(8) For AWL 47-AWL-04, “NGS—Thermal Switch”: Within 108,000 flight hours after the date of issuance of the original airworthiness certificate or the date of issuance of the original export certificate of airworthiness; or within 108,000 flight hours after accomplishment of the actions specified in Boeing Service Bulletin 777-47-0002; or within 108,000 flight hours after the most recent inspection was performed as specified in AWL 47-AWL-04; whichever occurs latest.

(9) For AWL 47-AWL-05, “NGS—Cross Vent Check Valve”: Within 10,682 flight hours after the date of issuance of the original airworthiness certificate or the date of issuance of the original export certificate of airworthiness; or within 10,682 flight hours after accomplishment of the actions specified in Boeing Service Bulletin 777-47-0002; or within 10,682 flight hours after the most recent inspection was performed as specified in AWL 47-AWL-05; whichever occurs latest.

(10) For AWL 47-AWL-06, “NGS—NEA Distribution Ducting Integrity”: Within 10,682 flight hours after the date of issuance of the original airworthiness certificate or the date of issuance of the original export certificate of airworthiness; or within 10,682 flight hours after accomplishment of the actions specified in Boeing Service Bulletin 777-47-0002; or within 10,682 flight hours after the most recent inspection was performed as specified in AWL 47-AWL-06; whichever occurs latest.

**(h) Exceptions to February 2021 revision of Section 9**

The following exceptions apply to 28-AWL-31 and 28-AWL-32 of Section D, “Airworthiness Limitations – Systems,” including Subsections D.1, D.2, and D.3, of Section 9, Airworthiness Limitations (AWLs) and Certification Maintenance Requirements (CMRs), D622W001-9, dated February 2021, of Boeing 777-200/200LR/300/300ER/777F Maintenance Planning Data (MPD) Document.

(1) In paragraph 1.i., change “Front Spar Bulkhead (Center Tank)” to “Front Spar Bulkhead (Center Wing Tank Fuel Quantity Greater than 12,400 Gallons).”

(2) In paragraph 1.j., change “Rear Spar Bulkhead (Center Tank)” to “Rear Spar Bulkhead (Center Wing Tank Fuel Quantity Greater than 12,400 Gallons).”

**(i) Additional Acceptable Wire Types and Sleeving**

As an option, when accomplishing the actions required by paragraph (g) of this AD, the changes specified in paragraphs (i)(1) and (2) of this AD are acceptable.

(1) Where AWL 28-AWL-11 identifies wire types BMS 13-48, BMS 13-58, and BMS 13-60, the following wire types are acceptable: MIL-W-22759/16, SAE AS22759/16 (M22759/16), MIL-W-22759/32, SAE AS22759/32 (M22759/32), MIL-W-22759/34, SAE AS22759/34 (M22759/34), MIL-W-22759/41, SAE AS22759/41 (M22759/41), MIL-W-22759/86, SAE AS22759/86 (M22759/86), MIL-W-22759/87, SAE AS22759/87 (M22759/87), MIL-W-22759/92, and SAE AS22759/92 (M22759/92); and MIL-C-27500 and NEMA WC 27500 cables constructed from these military or SAE specification wire types, as applicable.

(2) Where AWL 28-AWL-11 identifies TFE-2X Standard wall (manufactured as specified in MIL-I-23053) for wire sleeving, the following sleeving materials are acceptable: Roundit 2000NX and Varglas Type HO, HP, or HM.

**(j) No Alternative Actions, Intervals, or Critical Design Configuration Control Limitations (CDCCLs)**

After the existing maintenance or inspection program has been revised as required by paragraph (g) of this AD, no alternative actions (e.g., inspections), intervals, or CDCCLs may be used unless the actions, intervals, and CDCCLs are approved as an alternative method of compliance (AMOC) in accordance with the procedures specified in paragraph (l) of this AD.

**(k) Terminating Actions**

Accomplishment of the revision required by paragraph (g) of this AD terminates the requirements specified in paragraphs (k)(1) and (2) of this AD for that airplane.

(1) All requirements of AD 2008-11-13 for Model 777-200, -200LR, -300, and -300ER series airplanes only.

(2) All requirements of AD 2014-09-09.

**(l) Alternative Methods of Compliance (AMOCs)**

(1) The Manager, Seattle ACO Branch, FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. In accordance with 14 CFR 39.19, send your request to your principal inspector or responsible Flight Standards Office, as appropriate. If sending information directly to the manager of the certification office, send it to the attention of the person identified in paragraph (m) of this AD. Information may be emailed to: 9-ANM-Seattle-ACO-AMOC-Requests@faa.gov.

(2) Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the responsible Flight Standards Office.

(3) An AMOC that provides an acceptable level of safety may be used for any repair, modification, or alteration required by this AD if it is approved by The Boeing Company Organization Designation Authorization (ODA) that has been authorized by the Manager, Seattle ACO Branch, FAA, to make those findings. To be approved, the repair method, modification deviation, or alteration deviation must meet the certification basis of the airplane, and the approval must specifically refer to this AD.



**(m) Related Information**

For more information about this AD, contact Kevin Nguyen, Aerospace Engineer, Propulsion Section, FAA, Seattle ACO Branch, 2200 South 216th St., Des Moines, WA 98198; phone and fax: 206-231-3555; email: kevin.nguyen@faa.gov.

**(n) Material Incorporated by Reference**

(1) The Director of the Federal Register approved the incorporation by reference (IBR) of the service information listed in this paragraph under 5 U.S.C. 552(a) and 1 CFR part 51.

(2) You must use this service information as applicable to do the actions required by this AD, unless the AD specifies otherwise.

(i) Section 9, Airworthiness Limitations (AWLs) and Certification Maintenance Requirements (CMRs), D622W001-9, dated November 2019, of Boeing 777-200/200LR/300/300ER/777F Maintenance Planning Data (MPD) Document.

(ii) Section 9, Airworthiness Limitations (AWLs) and Certification Maintenance Requirements (CMRs), D622W001-9, dated February 2021, of Boeing 777-200/200LR/300/300ER/777F Maintenance Planning Data (MPD) Document.

(3) For service information identified in this AD, contact Boeing Commercial Airplanes, Attention: Contractual & Data Services (C&DS), 2600 Westminister Blvd., MC 110-SK57, Seal Beach, CA 90740-5600; telephone 562-797-1717; Internet <https://www.myboeingfleet.com>.

(4) You may view this service information at the FAA, Airworthiness Products Section, Operational Safety Branch, 2200 South 216th St., Des Moines, WA. For information on the availability of this material at the FAA, call 206-231-3195.

(5) You may view this service information that is incorporated by reference at the National Archives and Records Administration (NARA). For information on the

availability of this material at NARA, [fr.inspection@nara.gov](mailto:fr.inspection@nara.gov), or go to:

<https://www.archives.gov/federal-register/cfr/ibr-locations.html>.

Issued on November 16, 2021.

Lance T. Gant, Director,  
Compliance & Airworthiness Division,  
Aircraft Certification Service.

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